The following listing of claims replaces all previous claims.

LISTING OF CLAIMS

1. (Previously presented) A method of using magnetic particles to concentrate or harvest cells, comprising the steps of:

(a) combining cells with magnetic particles having a particle size of about 1 to 15 μm, under conditions wherein the cells selectively adsorb to the particles thereby forming a complex, wherein said magnetic particles are selected from the group consisting of (1) pH dependent ion exchange particles and (2) silica magnetic particles consisting essentially of a magnetic core coated with a siliceous oxide having a hydrous siliceous oxide adsorptive surface; and

(b) isolating the complex from the solution by application of magnetic force.

2. (Original) The method of claim 1, wherein the solution with cells contained therein is growth medium with a culture of bacteria suspended therein.

3. (Original) The method of claim 1, wherein the cells are blood cells.

4. (Original) The method of claim 3, wherein the cells are mammalian white blood cells and the solution with cells contained therein is whole blood.

5. (Original) The method of claim 1, wherein the magnetic particles are silica magnetic particles.

6. (Original) The method of claim 1, wherein the magnetic particles are pH-dependent ion exchange magnetic particles.

7. (Previously presented) A method of using magnetic particles to concentrate or harvest cells, comprising the steps of:

(a) combining cells with magnetic particles having a particle size of about 1 to 15 μm, under conditions wherein the cells selectively adsorb to the particles, thereby forming a complex, wherein the magnetic particles are pH dependent ion exchange

magnetic particles selected from the group consisting of glycidyl-histidine modified silica magnetic particles and glycidyl-alanine modified silica magnetic particles; and

(b) isolating the complex from the solution by application of magnetic force.

8. (Previously presented) A method of clearing a solution of disrupted biological material, according to steps comprising:

(a) providing a solution comprising a disrupted biological material;

(b) combining the solution with magnetic particles having a particle size of about 1 to 15 μm under conditions wherein the disrupted biological material other than target nucleic acids selected from the group consisting of selectively adsorbs to the particles, thereby forming a complex, wherein said magnetic particles are selected from the group consisting of (1) pH dependent ion exchange particles and (2) silica magnetic particles consisting essentially of a magnetic core coated with a siliceous oxide having a hydrous siliceous oxide adsorptive surface; and

(c) separating the complex from the solution by application of magnetic force.

9. (Original) The method of claim 8, wherein the disrupted biological material is a bacterial cell lysate.

10. (Original) The method of claim 8, wherein the disrupted biological material is a homogenate of mammalian tissue.

11. (Original) The method of claim 8, wherein the disrupted biological material is a lysate of blood.

12. (Original) The method of claim 11, wherein the disrupted biological material is a lysate of mammalian white blood cells isolated from whole blood.

13. (Previously presented) The method of claim 8, wherein the magnetic particles are silica magnetic particles.

14. (Previously presented) The method of claim 8, wherein the magnetic particles are pH dependent ion exchange magnetic particles.

15. (Previously presented) A method of clearing a solution of disrupted biological material other than target nucleic acids, according to steps comprising:

(a) providing a solution comprising a disrupted biological material;

(b) combining the solution with magnetic particles having a particle size of about 1 to 15_μm under conditions wherein the disrupted biological material other than target nucleic acids selectively adsorbs to the particles, thereby forming a complex, wherein the magnetic particles are pH dependent ion exchange particles selected from the group consisting of glycidyl-histidine modified silica magnetic particles and glycidyl-alanine modified silica magnetic particles; and

(c) separating the complex from the solution by application of magnetic force.

16. (Previously presented) A method of clearing a solution of disrupted biological material other than target nucleic acids, according to the steps comprising:

(a) combining a solution with cells contained therein with first magnetic particles having a particle size of about 1 to 15 μm, under conditions wherein the cells selectively adsorb to the first magnetic particles;

(b) isolating the complex from the solution by application of magnetic force;

(c) disrupting the cells to provide a solution comprising a disrupted biological material;

(d) combining the solution of step (c) with second magnetic particles having a particle size of about 1 to 15 μm under conditions wherein the disrupted biological material other than target nucleic acids selectively adsorbs to the second magnetic particles, thereby forming a complex; and

(e) separating the complex of step (d) from the solution of step (d) by application of magnetic force.

17. (Original) The method of claim 16, wherein the first magnetic particles are silica magnetic particles.

18. (Original) The method of claim 16, wherein the first magnetic particles are first pH-dependent ion exchange magnetic particles.

19. (Canceled)

20. (Original) The method of claim 16, wherein the first magnetic particles are the same as the second magnetic particles.

21. (Previously presented) A method of isolating a target nucleic acid from a disrupted biological material, comprising the target nucleic acid, a first non-target material, and a second non-target material, comprising the steps of:

(a) combining a solution of the disrupted biological material with first magnetic particles having a particle size of about 1 to 15 μm under conditions wherein the first non-target material selectively adsorbs to the particles, thereby forming a first complex, wherein said magnetic particles are selected from the group consisting of (1) pH dependent ion exchange particles and (2) silica magnetic particles consisting essentially of a magnetic core coated with a siliceous oxide having a hydrous siliceous oxide adsorptive surface;

(b) separating the first complex from the solution of disrupted biological material by application of magnetic force, forming a cleared solution comprising the target nucleic acid and the second non-target material, wherein the target nucleic acid is selected from the group consisting of plasmid DNA, total RNA, mRNA, and genomic DNA;

(c) combining the cleared solution with second magnetic particles having a particle size of about 1 to 15 μm under conditions wherein the target nucleic acid adsorbs to the second magnetic particles, forming a second complex;

(d) isolating the second complex from the cleared solution;

(e) washing the second complex by combining the second complex with a wash solution and separating the second complex from the wash solution by magnetic force; and

(f) combining the washed second complex with an elution solution, under conditions wherein the target material is desorbed from the second magnetic particles.

22. (Original) The method of claim 21, wherein the disrupted biological material is selected from the group consisting of a lysate of bacteria cells, a lysate of blood cells, and a homogenate of tissue.

23. (Original) The method of claim 21, wherein the target nucleic acid is plasmid DNA.

24. (Original) The method of claim 21, wherein the target nucleic acid is genomic DNA.

25. (Original) The method of claim 21, wherein the target nucleic acid is RNA.

26. (Canceled)

27. (Original) The method of claim 21, wherein the second magnetic particles are selected from the group consisting of: silica magnetic particles, and pH-dependent ion exchange magnetic particles.

28. (Original) The method of claim 21, wherein the first non-target material comprises cell debris or homogenized tissue and a precipitate, wherein the precipitate is of material selected from the group consisting of proteins, non-target nucleic acids, and lipids.

29. (Original) The method of claim 21, wherein the second non-target material remains in solution when the target nucleic acid is adsorbed to the second magnetic particles in step (c).

30-34. (Canceled)

35. (New) A method of clearing a solution of disrupted biological material other than target nucleic acids, according to the steps comprising:

(a) combining a solution with cells contained therein with first pH-dependent ion exchange magnetic particles having a particle size of about 1 to 15 μm selected from the group consisting of glycidyl-histidine modified silica magnetic particles, and glycidyl-alanine modified silica magnetic particles, under conditions wherein the cells selectively adsorb to the first pH-dependent ion exchange magnetic particles;

(b) isolating the complex from the solution by application of magnetic force;

(c) disrupting the cells to provide a solution comprising a disrupted biological material;

(d) combining the solution of step (c) with second magnetic particles having a particle size of about 1 to 15 μm under conditions wherein the disrupted biological material other than target nucleic acids selectively adsorbs to the second magnetic particles, thereby forming a complex, wherein the target nucleic acid is selected from the group consisting of plasmid DNA, total RNA, mRNA, and genomic DNA; and
(e) separating the complex of step (d) from the solution of step (d) by application of magnetic force.

36. (New) The method of claim 35, wherein the target nucleic acid is plasmid DNA.

37. (New) The method of claim 35, wherein the target nucleic acid is genomic DNA.

38. (New) The method of claim 35, wherein the target nucleic acid is RNA.